Datasheet for ABIN7555393

# SLC5A3 Protein (AA 1-718) (His tag)

Go to Product page

## Overview

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| Quantity: | 1 mg |
| Target: | SLC5A3 |
| Protein Characteristics: | AA 1-718 |
| Origin: | Human |
| Source: | HEK-293 Cells |
| Protein Type: | Recombinant |
| Purification tag / Conjugate: | This SLC5A3 protein is labelled with His tag. |

## Product Details

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| Purpose: | Custom-made recombinant SLC5A3 Protein expressed in mammalian cells. |
| Sequence: | MRAVLDTADI AIVALYFILV MCIGFFAMWK SNRSTVSGYF LAGRSMTWVA IGASLFVSNI GSEHFIGLAG SGAASGFAVG AWEFNALLLL QLLGWVFIPI YIRSGVYTMP EYLSKRFGGH RIQVYFAALS LILYIFTKLS VDLYSGALFI QESLGWNLYV SVILLIGMTA LLTVTGGLVA VIYTDTLQAL LMIIGALTLM IISIMEIGGF EEVKRRYMLA SPDVTSILLT YNLSNTNSCN VSPKKEALKM LRNPTDEDVP WPGFILGQTP ASVWYWCADQ VIVQRVLAAK NIAHAKGSTL MAGFLKLLPM FIIVVPGMIS RILFTDDIAC INPEHCMLVC GSRAGCSNIA YPRLVMKLVP VGLRGLMMAV MIAALMSDLD SIFNSASTIF TLDVYKLIRK SASSRELMIV GRIFVAFMVV ISIAWVPIIV EMQGGQMYLY IQEVADYLTP PVAALFLLAI FWKRCNEQGA FYGGMAGFVL GAVRLILAFA YRAPECDQPD NRPGFIKDIH YMYVATGLFW VTGLITVIVS LLTPPPTKEQ IRTTTFWSKK NLVVKENCSP KEEPYKMQEK SILRCSENNE TINHIIPNGK SEDSIKGLQP EDVNLLVTCR EEGNPVASLG HSEAETPVDA YSNGQAALMG EKERKKETDD GGRYWKFIDW FCGFKSKSLS KRSLRDLMEE EAVCLQMLEE TRQVKVILNI GLFAVCSLGI FMFVYFSL **Sequence without tag.** |

## Product Details

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| | **The proposed Purification-Tag is based on experiences with the expression system, a different complexity of the protein could make another tag necessary. In case you have a special request, please contact us.** |
| Specificity: | If you are looking for a specific domain and are interested in a partial protein or a different isoform, please contact us regarding an individual offer. |
| Characteristics: | Key Benefits:<br>• Made to order protein - from design to production - by highly experienced protein experts.<br>• Protein expressed in mammalian cells and purified in one-step affinity chromatography<br>• The optimized expression system ensures reliability for intracellular, secreted and transmembrane proteins.<br>• State-of-the-art algorithm used for plasmid design (Gene synthesis).<br><br>This protein is a made-to-order protein and will be made for the first time for your order. Our experts in the lab try to ensure that you receive soluble protein.<br><br>If you are not interested in a full length protein, please contact us for individual protein fragments.<br><br>The big advantage of ordering our made-to-order proteins in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified. |
| Purity: | > 90 % as determined by Bis-Tris PAGE, anti-tag ELISA, Western Blot and analytical SEC (HPLC) |
| Grade: | custom-made |

## Target Details

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| Target: | SLC5A3 |
| Alternative Name: | SLC5A3 (SLC5A3 Products) |
| Background: | Sodium/myo-inositol cotransporter (Na(+)/myo-inositol cotransporter) (Sodium/myo-inositol transporter 1) (SMIT1) (Solute carrier family 5 member 3),FUNCTION: Electrogenic Na(+)-coupled sugar symporter that actively transports myo-inositol and its stereoisomer scyllo-inositol across the plasma membrane, with a Na(+) to sugar coupling ratio of 2:1 (By similarity). Maintains myo-inositol concentration gradient that defines cell volume and fluid balance during osmotic stress, in particular in the fetoplacental unit and central nervous system (By similarity). Forms coregulatory complexes with voltage-gated K(+) ion channels, allosterically altering ion selectivity, voltage dependence and gating kinetics of the channel. In turn, K(+) efflux through |

## Target Details

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| | the channel forms a local electrical gradient that modulates electrogenic Na(+)-coupled myo-inositol influx through the transporter (PubMed:24595108, PubMed:28793216). Associates with KCNQ1-KCNE2 channel in the apical membrane of choroid plexus epithelium and regulates the myo-inositol gradient between blood and cerebrospinal fluid with an impact on neuron excitability (PubMed:24595108) (By similarity). Associates with KCNQ2-KCNQ3 channel altering ion selectivity, increasing Na(+) and Cs(+) permeation relative to K(+) permeation (PubMed:28793216). Provides myo-inositol precursor for biosynthesis of phosphoinositides such as PI(4,5)P2, thus indirectly affecting the activity of phosphoinositide-dependent ion channels and Ca(2+) signaling upon osmotic stress (PubMed:27217553). {ECO:0000250\|UniProtKB:P31637, ECO:0000250\|UniProtKB:Q9JKZ2, ECO:0000269\|PubMed:24595108, ECO:0000269\|PubMed:27217553, ECO:0000269\|PubMed:28793216}. |
| Molecular Weight: | 79.7 kDa |
| UniProt: | P53794 |
| Pathways: | Inositol Metabolic Process |

## Application Details

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| Application Notes: | We expect the protein to work for functional studies. As the protein has not been tested for functional studies yet we cannot offer a guarantee though. |
| Restrictions: | For Research Use only |

## Handling

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| Format: | Liquid |
| Buffer: | The buffer composition is at the discretion of the manufacturer. |
| Handling Advice: | Avoid repeated freeze-thaw cycles. |
| Storage: | -80 °C |
| Storage Comment: | Store at -80°C. |
| Expiry Date: | 12 months |